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10/078,334	02/14/2002	Koichi Nakata	9333/285	7347

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EXAMINER

NG, EUNICE

ART UNIT	PAPER NUMBER
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2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/078,334	NAKATA, KOICHI	
	Examiner	Art Unit	
	Eunice Ng	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed 11/07/06.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the Office Action mailed 08/07/06, Applicants have submitted an Amendment, filed 11/07/06, amending claims 1, 5, 14 and 17-19, without adding new matter, and arguing to traverse claim rejections.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 5, 14 and 17-19 have been considered but are moot in view of the new ground(s) of rejection, below.

Regarding claims 1 and 5, Applicants amended the claims to clarify that the system itself detects the audio or image output of an operated device and stops speech guidance in response thereto (Remarks, p.8). DeLine *et al.* (US Patent 6,420,975), in col.28, ll.21-28, teaches an in-vehicle train approaching warning system which can activate audible and/or visual alarms in the vehicle if a train is approaching. Such train warning displays may override any existing displays so that the driver is fully alert to any potential hazard.

Regarding claim 14, Applicants amended the claims to clarify that the feature operates for both possibilities of when only an operation object is specified and when only the content of an operation is specified. Shiraishi (US Patent App. Pub. 2001/0052030) in paragraph 77, teaches a command correspondence table retriever 105 that retrieves candidates, which the user can input, from the command correspondence table 103 based on the command character string which is being input by the user. If in step 309, it is determined that there are a plurality of

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entries, all of the candidates of the entries are displayed with their command explanations extracted from the command correspondence table 103, and at step 312 prompts the user to input the desired command. This is synonymous with Applicant's invention (Remarks, p.9) wherein if the user voices only an operation, such as "up", that is applicable to multiple operation objects (e.g., the volume of an audio device, or the temperature), the system can display the operation objects available for this operation to assist the user in completing the command desired.

Regarding claims 17 and 19, Applicants amend the claims to recite the order of the commands are changed *relative to one another* according to the counts of the outputs or frequency of use. Ozeki (US Patent 5,125,071) teaches computer command input unit giving priority to frequently selected commands. The selected commands are put into a group having the highest priority for display, so that the commands having a high frequency of use are displayed in the first display group, and a priority order renewal unit which renews the memory table such that executed commands are put into the group having highest priority, changed relative to one another (see Abstract).

Regarding claim 18, Applicants amend the claims to include speech input guidance output unit provides a guidance output of the command in a form different from that of the other commands when the count for a speech input executing command is more than a predetermined number. Lennig *et al.* (US Patent 5,479,488) in col.7, ll. 6-11, teaches if the response cannot be recognized, decision steps will cause a message to be played to seek clarification. If a predetermined number of attempts at clarification have failed to elicit a recognizable response, decision step 315 and step 317 hand the call off to a human operator (different form).

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Claim Objections

3. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 6 recites wherein said speech input guidance controlling unit stops the speech input guidance when the operation of a device for providing an audio output is detected. However, these limitations are all recited in parent claim 5.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Kleeck et al. ("Van Kleeck"), US Patent 5,890,122 in view of Shiraishi, US Patent App. Pub. 2001/0052030.

Regarding claim 14, Van Kleeck teaches a speech input guidance device comprising: a speech input guidance data accumulating (509) unit for recording speech input executing commands (a table of available commands are stored in the input facility and so inherently would have been recorded to be stored in said location) categorized by operation object (computer instructions are the device operations while the particular application program constitutes operation object; col. 3, ll. 29-32 and col. 4, ll. 10-23);

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a speech input guidance output request detecting unit (502) for detecting a speech input guidance output request from a user (the user activating the facility with an application program constitutes a request for speech guidance output); a data searching unit (502) for searching for and providing data (the process of displaying available commands would inherently require the processor to search the computer memory for available commands corresponding to the particular application program being utilized) in said speech input guidance data accumulating unit according to an output from said speech input guidance output request detecting unit; and a speech input guidance output unit (speech synthesizer; display) for providing speech input executing commands searched by said data searching unit as one of by a display screen and by speech (col. 4, ll. 10-23 and ll. 34-44 and col. 7, ll. 44-48);

wherein said speech input guidance data accumulating unit (509) records (a hierarchy table of available commands for each application is stored in the input facility and so inherently would have been recorded to be stored in said location) speech input executing commands for indicating an operation object (card node) and commands for a speech input for indicating the content of an operation (children notes) applied to the operation object and when said speech input guidance output request detecting unit (502) detects (spoken command is recognized) that a user enters only one of said speech input executing command for indicating an operation object and said speech input executing command for indicating an operation content, said data searching unit (502) searches for and provides (the interface searches for and displays all of the children nodes corresponding to the recognized command as the new list of active words) either a speech input executing command for indicating an operation object corresponding to an operation content entered by the user, or a speech input executing command for indicating an

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operation content corresponding to an operation object entered by the user (col. 5, ll. 10-24 and col. 6, ll. 6-63).

Van Kleeck does not explicitly teach both possibilities of: said data searching unit searches for and provides a speech input executing command for indicating an operation object corresponding to an operation content entered by the user when only an operation content is entered by the user without indicating an operation object and provides a speech input executing command for indicating an operation content corresponding to an operation object entered by the user when only an operation object is entered by the user without indicating an operation content. However, it is old and well known in the art as evidenced by Shiraishi (US Patent App. Pub. 2001/0052030) in paragraph 77, which teaches a command correspondence table retriever 105 that retrieves candidates, which the user can input, from the command correspondence table 103 based on the command character string which is being input by the user. If in step 309, it is determined that there are a plurality of entries, all of the candidates of the entries are displayed with their command explanations extracted from the command correspondence table 103, and at step 312 prompts the user to input the desired command. This is synonymous with Applicant's invention (Remarks, p.9) wherein if the user voices only an operation, such as "up", that is applicable to multiple operation objects (e.g., the volume of an audio device, or the temperature), the system can display the operation objects available for this operation to assist the user in completing the command desired.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Van Kleeck with Shiraishi because Shiraishi teaches that even when the input character string is incomplete, the corresponding command

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function can be executed (paragraph 56). A plurality of candidates can be displayed so that the user can select one of them. Thus, the user can easily handle the command processing apparatus (paragraph 59).

Regarding claim 20, Van Kleeck teaches a speech input guidance device comprising: a speech input executing command indicating means for specifying one of the speech input executing commands (active words) provided on the screen from said speech input guidance output unit (505; col. 4, ll. 63-66); and

a device operation means for conducting an operation (keystroke commands) specified by said speech input executing command indicating means (col. 4, line 66 through col. 5, line 7).

6. Claims 1 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Kleeck et al. ("Kleeck"), US Patent 5,890,122 in view of DeLine et al. ("DeLine"), US Patent 6,420,975.

Regarding claim 1, Van Kleeck teaches: detecting a device operation by a user (the process of activating the facility would inherently require the computer to detect keystrokes or mouse clicks; col. 4, ll. 24-25); and searching (the process of displaying available commands would inherently require the processor to search the computer memory for available commands corresponding to the particular application program being utilized) for a speech input executing command (available commands) corresponding to the device operation from a speech input guidance data accumulating unit (504); and providing (displaying) the user with searched speech input guidance (col. 4, ll. 10-23 and ll. 34-44).

Van Kleeck does not, but DeLine teaches detecting the occurrence of an audio or image output of an operated device; wherein the speech input guidance is stopped if it would interfere with the detected audio or image output of an operated device. DeLine, in col.28, ll.21-28, teaches an in-vehicle train approaching warning system which can activate audible and/or visual alarms in the vehicle if a train is approaching. Such train warning displays may override any existing displays so that the driver is fully alert to any potential hazard.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Van Kleeck with DeLine because DeLine teaches that stopping a current operation in order to display another will necessarily allow the audio or image output to more fully alert the user (col.28, ll.21-28) and at the same time avoid confusing the user with simultaneous prompts and music.

Regarding claim 5, Van Kleeck teaches: a device operation detecting unit for detecting a device operation by a user (col. 4, ll. 10-15 and ll. 24-25);

a speech input guidance data accumulating unit (509) for recording speech input guidance data (a table of available commands are stored in the input facility and so inherently would have been recorded to be stored in said location) for guiding the user to a command to be executed by means of speech for device operations categorized by device operation type (computer instructions are the device operations while the particular application program constitutes operation type; col. 3, ll. 29-32 and col. 4, ll. 10-23); and

a data searching unit (502) for searching for (the process of displaying available commands would inherently require the processor to search the computer memory for available

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commands corresponding to the particular application program being utilized), and providing (displaying) speech input guidance data corresponding to, the device operation detected by said device operation detecting unit from said speech input guidance data accumulating unit; and a speech input guidance output unit (505) for providing the user with data searched by said data searching unit (col. 4, ll. 10-23 and ll. 34-44).

The remaining limitations of claim 5 are similar to that of claim 1, above, and is rejection for the same rationale.

Regarding claims 6-8 and 10, Van Kleeck fails to disclose a speech input guidance controlling unit for stopping the speech input guidance when the operation of a device (e.g. device for providing audio output, a radio, route guidance by speech of a navigation device) is detected. However, this feature is taught in DeLine, as discussed in the rejection of claims 1 and 5, above, and rejected for the same rationale.

Regarding claim 9, Van Kleeck teaches wherein at least one of guidance with a screen and a confirmation sound for indicating that a speech input is available is provided when the speech input guidance is stopped (the guidance data is provided to a screen display when made available and also goes into a wait state; col. 4, ll. 34-40 teaches, "the interface program displays in an active words window a list of active words that the user may speak in order to input currently appropriate choices" and col. 4, line 57 through col. 5, line 9, teaches "the user speaks a word into the microphone, the interface program receives a digitized representation of the spoken word from the sound input module... The interface program then communicates the choice

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associated with the recognized word to the application program. In a preferred embodiment, the interface program accomplishes this by submitting keystroke commands corresponding to the choice associated with the recognized word to the application program [for example, a stop command]. When the application receives these keystrokes, it acts upon the choice to which the keystrokes correspond. The interface program then updates the list of active words in light of the new currently appropriate choices [guidance with a screen for indicating that a speech input is available] and waits for the user to speak another word”).

7. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Kleeck in view of DeLine, and further in view of Cohen et al., US Patent No. 6,560,576.

Regarding claims 11-12, Van Kleeck and DeLine fail to teach recording a count of the outputs. However, Cohen teaches a data recording unit for recording counts of the guidance speech outputs (played prompts) and of the guidance screen display outputs (prompts) separately (Examiner takes the position that recorded counts would be made separate since the data correlates to two different interfaces) characterized by the device operation type (prompt specific conditions) from said speech input guidance unit (23) into the speech input guidance data accumulating unit (22), wherein said speech input guidance controlling unit (21) uses the data searching unit to search for/receive a count of outputs corresponding to a device operation, and stops the speech input guidance when said count of outputs exceeds a predetermined number (Fig. 2; col. 9, ll. 8-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to supplement Van Kleeck's and DeLine's speech input guidance device

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with Cohen's recording output counts. The motivation for doing so would have been to allow experienced users benefit from learning to use a system more efficiently by eliminating the superfluous repeating of prompts as taught by Cohen (col. 6, ll. 8-10).

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Kleeck, DeLine, and Cohen et al. in view of Lennig et al. ("Lennig"), US Patent 5,479,488.

Regarding claim 18, Van Kleeck teaches a speech input guidance data accumulating unit (509) for recording speech input executing commands (a table of available commands are stored in the input facility and so inherently would have been recorded to be stored in said location) characterized by operation object (computer instructions are the device operations while the particular application program constitutes operation object; col. 3, ll. 29-32 and col. 4, ll. 10-23);

a speech input guidance output request detecting unit (502) for detecting a speech input guidance output request from a user (the user activating the facility with an application program constitutes a request for speech guidance output); a data searching unit (502) for searching for and providing data (the process of displaying available commands would inherently require the processor to search the computer memory for available commands corresponding to the particular application program being utilized) in said speech input guidance data accumulating unit according to an output from said speech input guidance output request detecting unit; and

a speech input guidance output unit (speech synthesizer; display) for providing speech input executing commands searched by said data searching unit as one of by a display screen and by speech (col. 4, ll. 10-23 and ll. 34-44 and col. 7, ll. 44-48).

Van Kleeck, Nakano, and Cohen do not explicitly teach the speech input guidance output unit provides a guidance output of the command in a form different from that of the other commands when the count for a speech input executing command is more than a predetermined number. However, this feature would have been obvious given the teaching elements of Lennig in col.7, ll.6-11, which teaches if the response cannot be recognized, decision steps will cause a message to be played to seek clarification. If a predetermined number of attempts at clarification have failed to elicit a recognizable response, decision step 315 and step 317 hand the call off to a human operator.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a guidance output of the command in a form different from that of the other commands when the count for a speech input executing command is more than a predetermined number because Lennig teaches that there may be other forms of help available (e.g. human operator) that may better assist the user (col.7, ll.6-11), and thereby reduce user frustration.

The rest of the limitations of claim 18 are the same as or similar to those of claim 11, rejected above, and thus are rejected for the same reasons.

9. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Kleeck et al. in view of Ozeki, US Patent 5,125,071.

Regarding claim 17, Van Kleeck teaches: a speech input guidance data accumulating unit (509) for recording speech input executing commands (a table of available commands are stored in the input facility and so inherently would have been recorded to be stored in said location) characterized by operation object (computer instructions are the device operations while the

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particular application program constitutes operation object; col. 3, ll. 29-32 and col. 4, ll. 10-23);
and

a speech input guidance output request detecting unit (502) for detecting a speech input guidance output request from a user (the user activating the facility with an application program constitutes a request for speech guidance output); a data searching unit (502) for searching for and providing data (the process of displaying available commands would inherently require the processor to search the computer memory for available commands corresponding to the particular application program being utilized) in said speech input guidance data accumulating unit according to an output from said speech input guidance output request detecting unit; and a speech input guidance output unit (speech synthesizer; display) for providing speech input executing commands searched by said data searching unit as one of by a display screen and by speech (col. 4, ll. 10-23 and ll. 34-44 and col. 7, ll. 44-48).

Van Kleeck fails to teach wherein said speech input guidance data accumulating unit records at least one of the counts of outputs from said speech input guidance output unit and the dates of the outputs for individual speech input executing commands, and said speech input guidance output unit changes the order of said provided speech input executing commands relative to one another according to at least one of the counts of outputs and the dates of outputs. However, this feature would have been obvious given the teaching elements of Ozeki which teaches computer command input unit giving priority to frequently selected commands. The selected commands are put into a group having the highest priority for display, so that the commands having a high frequency of use are displayed in the first display group, and a priority

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order renewal unit which renews the memory table such that executed commands are put into the group having highest priority, changed relative to one another (see Abstract).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Van Kleeck with Ozeki because Ozeki teaches that in practice, the operator does not equally use all of the functions of the application program. Ozeki's invention allows improvements in operability and increases the speed for inputting commands (col.2, ll. 18-36).

Regarding claim 19, Van Kleeck teaches: a speech input guidance data accumulating unit (509) for recording speech input executing commands and mutual correspondences (512 and 513) among the speech input executing commands (a table of available commands are stored in the input facility and so inherently would have been recorded to be stored in said location; col. 3, ll. 29-32 and col. 4, ll. 10-23); a speech input detecting unit (sound input module) for detecting (receives/returns) a speech input operation by a user (col. 4, ll. 57-67); and the speech input executing commands searched by said data searching unit and provided to the user are prioritized according to frequency of use (col. 7, ll. 45-47; infrequently used words/commands are omitted from the spoken word hierarchy and therefore words being used more frequently fall into a spoken word hierarchy, the frequently used words prioritized with respect to the infrequently used words).

Van Kleeck does not explicitly wherein the speech input executing commands searched by said data searching unit and provided to the user are prioritized relative to one another according to frequency of use. However, this features is old and well known in the art as

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evidenced by Ozeki which teaches computer command input unit giving priority to frequently selected commands. The selected commands are put into a group having the highest priority for display, so that the commands having a high frequency of use are displayed in the first display group, and a priority order renewal unit which renews the memory table such that executed commands are put into the group having highest priority, changed relative to one another (see Abstract).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Van Kleeck with Ozeki because Ozeki teaches that in practice, the operator does not equally use all of the functions of the application program. Ozeki's invention allows improvements in operability and increases the speed for inputting commands (col.2, ll. 18-36).

The rest of the limitations of claim 19 are the same as or similar to those of claims 5 and 14, rejected above, and thus are rejected for the same reasons.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Kleeck and Shiraishi in view of White, US Patent No. 5,386,494.

Van Kleeck teaches recording speech input executing commands into a speech input guidance data accumulating unit, but fails to disclose of providing paraphrased speech input executing commands. Van Kleeck and Shiraishi do not, however White teaches recording speech input executing commands for paraphrasing the individual speech input executing commands, and the speech input guidance output unit provides paraphrasing speech input

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executing commands corresponding (associated) to an entered speech input executing command (Fig. 5C; col. 8, ll. 43-54).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of applicant's invention to supplement Van Kleeck's speech input guidance device and Shiraishi with White's paraphrasing of commands. The motivation for doing so would have been to allow the user to easily check whether the computer has the capability to recognize the context of a spoken command, as taught by White (col. 8, ll. 48-51).

Allowable Subject Matter

11. Claims 2-4 are allowable. The following is a statement of reasons for the indication of allowable subject matter: Claim 2 is allowable because the prior art of record does not disclose or suggest of a speech input guidance device wherein the number of speech inputs is counted and guidance is terminated when the count of speech inputs exceeds a predetermined number. It is old and well known in prior art to terminate guidance when the number of speech outputs exceeds a predetermined number (see e.g. Cohen). However, the prior art does not disclose or suggest terminating the guidance according to the counts of the speech input. Claims 3-4 depend from independent claim 2 and therefore are also deemed allowable.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Inatomi (US 5,598,522) and Sone (JP 04-264916) both teach commands a prioritized/displayed relative to one another according to frequency of use.

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13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

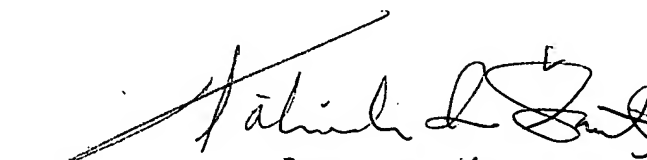
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunice Ng whose telephone number is 571-272-2854. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth, can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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